

# 2014



Wyoming Game and Fish Department—Cody Region



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## Cody Region welcomes new fish supervisor - Tara Teaschner

The Wyoming Game and Fish Department welcomes new fisheries supervisor Craig Amadio to the Cody Region.

Amadio replaces fisheries supervisor Steve Yekel who retired after 37 years with the department. Amadio moved to Cody from Green River where he served as a fisheries biologist for eleven years with the Game and Fish. Previously, he worked as a fisheries technician for three seasons in Lander.

As Cody Region fisheries supervisor, Amadio oversees the management of waters in the Cody Region which include the

Bighorn River and all waters on the west slope of the Bighorn Mountains that drain into the Bighorn River, the Greybull River and associated drainages, the Shoshone River and associated drainages, and the Clarks Fork River and associated drainages.

Amadio said that he values the uniqueness and diversity of fisheries the Cody Region offers. "There is a nice mix of major sport fish waters, high mountain systems and native fisheries," he said. "I am looking forward to working with the public, diverse angler groups and collaborating with other

agencies and organizations to manage fisheries in the area."

Amadio earned a bachelor's degree in fish and wildlife management and a master's degree in zoology and physiology from the University of Wyoming. His graduate work focused on distribution and habitat use of sauger in the Wind River drainage.

Amadio is an outdoor enthusiast who enjoys hunting, fishing, camping and skiing. "Growing up in Wyoming, I spent a lot of time outdoors," Amadio said. "I developed a passion for wildlife through outdoor experiences I shared with my family growing up in Lander."

"The diversity in wildlife resources and outdoor recreational opportunities in the Cody area were a big draw for me," he said. "I am eager to take on the responsibilities and challenges of managing fisheries in the area and am looking forward to working with the two outstanding fisheries biologists stationed in the region."

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## Yep, it's been a long cold winter - Sam Hochhalter

*“Even carp, a fish known for it's high tolerance for low oxygen levels in water perished during this past winter.”*

If you think this winter has been a bit too long, you're not alone. The cold temperatures and above average snowfall has made it a tough winter for the fish living in our lowland reservoirs and ponds. Prolonged periods of cold temperatures led to these waterbodies being covered with ice for an extended period of time. Without oxygen exchange with the overlying air, the water in these ice-covered ponds and lakes can become depleted of oxygen which can lead to fish kills. And such was the case throughout the Bighorn

Basin. Dead fish have been reported in Renner Reservoir, Horseshoe Pond, and South Worland Pond, to name a few, over the latter half of the winter. Site investigations at several of these waterbodies found that even carp, a fish known for it's high tolerance of low oxygen levels in water perished during this past winter.

Although winter kills can appear to be extensive (several hundred dead fish along shorelines), don't let this deter you from fishing them this spring

and summer as it is highly unlikely that all the fish perished. In fact, for reservoirs such as Renner, the loss of some fish will free up food resources for those individuals that survived. With more food available, we expect to see better growth in the bass that survived during this upcoming summer.

## Hogan Reservoir - Jason Burckhardt

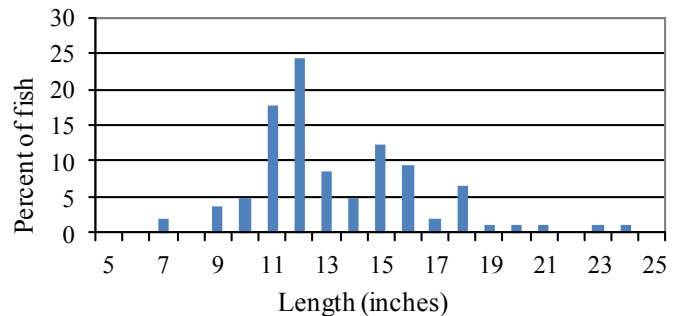
*“The trout population in Hogan Reservoir has responded positively to the chemical removal of suckers and chubs.”*

Hogan Reservoir is a 35 acre reservoir situated on BLM land 20 miles northwest of Cody off of county road 7RP. Hogan Reservoir is often overlooked by anglers headed to neighboring Luce Reservoir that is managed under the “trophy” management concept, catch and-release only. Hogan Reservoir is managed under the put-and-grow concept under the statewide limit of six fish. Each year 1,700 sub-catchable (4-5 inch) cutthroat trout are stocked into Hogan Reservoir where they grow to a “catchable” size (greater than 8 inches) in less than a year.

In 2005 the reservoir was drawn down to it's minimum pool to improve the outlet structure. We used that opportunity to chemically treat the reservoir with the chemical rotenone to remove the abundant sucker and chub population that was affecting stocked trout growth and survival. The trout population has responded positively to the chemical removal of suckers and chubs. When sampled in 2013, stocked cutthroat averaged over 13 inches with a good number of cutthroat over

15 inches. The largest fish sampled was a cutthroat that measured 24.1 inches and

tipped the scales at 6.16 pounds.



The length frequency of cutthroat trout sampled in Hogan Reservoir in 2013.



Cutthroat stocked into Hogan Reservoir have shown incredible growth with the largest sampled just over 24 inches and six pounds.

## Fish need water - Sam Hochhalter

I have had the pleasure of working with some truly great and interesting people over the years. As my career in fisheries management has advanced, the wisdom shared by long-time veterans of fish management has proven to be invaluable time and again.

While working for Montana Fish, Wildlife and Parks in Dillon I asked a soon-to-retire coworker what he had learned after 25+ years as a fisheries professional. After a brief pause, he said "fish need water."

While Tim was not exactly known as a man of many words, I expected that after 25 years he would have a little more to say than simply "fish need water." It wasn't until a few days later that the hidden message within Tim's words of wisdom hit me. And now seven years later I am convinced there is no better 3-word summary of fisheries management in the Rocky Mountains and here are four examples from the Cody Region to help explain why.

### Forage fish abundance in Bighorn Lake:

Whether it's walleye and small-mouth bass in the Montana end or sauger and channel catfish on the Wyoming end, the fisheries of Bighorn Lake rely heavily on forage fish production. The abundance of forage fish such as emerald shiners is closely tied to the amount of shallow shoreline that is submerged in the Wyoming end of the reservoir during summer months. In general, smaller snowpacks and drier springs and summers result in less water in Bighorn Lake. Less water means less submerged shoreline vegetation (i.e., less habitat for forage fishes) which in turn can lead to lower abundance of forage fish.

We cooperate with partners such as Friends of Bighorn Lake and the Bureau of Reclamation on water management issues within the Bighorn River watershed with the goal of balancing consumptive uses of water with maintaining quality reservoir and river fisheries.

### Trout abundance in regional tailwaters:

The tailwater fisheries of the Shoshone and Bighorn rivers are among the most popular fisheries in the Cody region. Trout abundance in these two rivers is directly linked to overwinter (Oct–Mar) flows. As a rule of thumb, more water in the river throughout the winter leads to increased survival and thus more trout the following summer.

### Recruitment of sauger in the Bighorn River:

Unlike some fish such as trout, sauger do not successfully reproduce every year. In fact, it is not uncommon for some sauger populations to go 4-5 years without successfully reproducing. In general, sauger in the Bighorn River successfully reproduce during years when spring runoff is relatively high and prolonged (e.g., 2011) and do not reproduce when spring runoff is low and water temperatures are relatively high (e.g., 2012 and 2013).

### Natural recruitment of trout in the Bighorn River:

The wedding of the waters section of the Bighorn River is currently at an all time high in terms of trout abundance. This is the result of relatively high levels of natural recruitment of rainbow trout which is largely attributed to planned flushing flows below Boysen Dam. Flushing flows remove fine sediment from

incubating trout eggs improving hatch success. These flushing flows have only been possible during years with an average or above average snowpack.



When water is abundant the shallow shorelines of Bighorn Lake get inundated and provide great habitat for forage fish.



Emerald shiners are an important forage fish in Big Horn Lake.

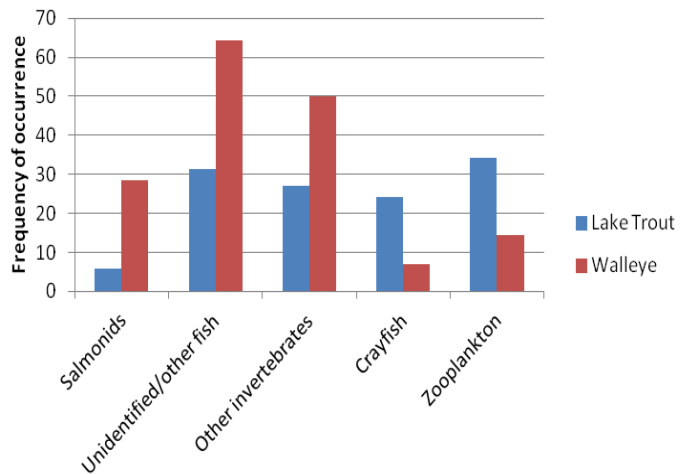


Flushing flows in the Bighorn River are essential to remove fine sediment from trout spawning gravels.

## Who's eating whom in Buffalo Bill Reservoir? – Jason Burckhardt

*“Our goal is to determine if the wild rainbow-cutthroat fishery is sustainable in light of the predators in the reservoir.”*

If you read our newsletter last year, you learned that we are conducting a study on Buffalo Bill Reservoir to determine if the wild rainbow and cutthroat fishery is sustainable in light of the predators in the reservoir. Buffalo Bill Reservoir is a unique Wyoming fishery in that it is a large reservoir that is not stocked with fish raised in a hatchery. The trout fishery is sustained by rainbow and cutthroat that spawn primarily in the North Fork Shoshone River drainage. Upon hatching the trout that are spawned in the North Fork tributaries migrate to Buffalo Bill Reservoir where they can grow and mature, feeding on the tiny crustaceans known as zooplankton. Within Buffalo Bill Reservoir these trout grow quite rapidly.



Frequency of occurrence of prey items in the stomachs of lake trout and walleye.

Our sampling indicated that through the mid-2000s lake trout abundance in the reservoir substantially increased (possible associated with the enlargement of Buffalo Bill Reservoir in 1994).

Walleye were discovered in the reservoir in 2008. Walleye often prey heavily on trout in western reservoirs, with the potential to nearly eliminate trout populations. Prior to the illegally introduction of walleye, trout could probably have sought refuge from lake trout predation higher in the water column during the summer time, where the water is a little too warm for lake trout.

Now with the introduction of another predator that has an affinity for warmer water, the fate of trout in Buffalo Bill Reservoir is at stake.

What we've learned thus far is that fish are a major prey source for both predators. Fish were found in the stomachs of over half of the walleye sampled and fish identified as trout (salmonids) were found in almost 30 percent of the fish sampled. Fish were found in the stomachs of just over 30 percent of the lake trout sampled and about five percent of the lake trout sampled had trout in their stomachs.

We've also learned that water temperatures are warmer than optimal for lake trout growth and colder than optimal for walleye growth, but that walleye have spawned successfully since their introduction.

We've also learned that the trout grow quickly and may be able to escape predation by growing large enough to avoid these predators.

As this study continues, researchers will be using stable isotopes (molecules with different weights) to determine predator diets over the long term. When paired with the diet analysis, this information will allow us to have an accurate picture of what the predators are eating.



Colorado State University researcher Clark Johnson cradles a large lake trout as biologists “pump it’s stomach” to determine what the fish has been eating.

## Brook Trout: King of the Hill - Sam Hochhalter

When it comes to mid to upper elevation waterbodies in the Cody Region, few other fish can match the brook trout in terms of miles of streams and number of lakes occupied. From countless thread-like tributary streams, many of which are so small no one has bothered to name them, to lakes that remain ice-free for only a handful of weeks each year, brook trout are there. And not only are they there, more often than not, they are thriving. For this reason it's fair to say that brook trout are king's of the hill.

In the Absaroka, Beartooth, and Bighorn Mountains of the Cody Region brook trout are found in more than 2,000 miles of streams and more than 200 lakes and ponds. If it's brook trout you are after the Cody Region has no shortage!

Because brook trout populations do so well in mountain streams and lakes in our region, they often require little management action. For this reason it may seem like they get neglected by fish biologists. But like many things, perception does not necessarily align with reality. Brook trout fisheries have always been, and will continue to be important fisheries in the Cody Region. As fish biologists with the state of Wyoming, it is our responsibility to ensure that brook trout fisheries are available to present and future anglers. Below is a list of a few of our favorite brook trout fishing spots. Enjoy!

### Sunlight Creek

Located up Sunlight Basin this

stream provides exceptional fishing for 6–12" brook trout. It is road accessible in places but like most popular fisheries, you will be rewarded if you get off the beaten path.

### Upper Clarks Fork River

The upper Clark's Fork River from the Painter store to the state line is a great medium sized river loaded with brook trout. The river fishes best in late summer.

### Willett Creek and Lake

Similar to many small streams and lakes on the west side of the Bighorn Mountains, Willett Creek has an incredible abundance of brook trout. The stream is road accessible and offers fast-paced fishing for 5–10" brook trout.

### Paintrock Lakes

A little more remote but still very accessible by vehicle, the Paintrock Lakes offer wonderful family fishing and camping opportunities. These lakes are on the boarder of the Cloud Peak Wilderness and have several trailheads nearby that lead to other great brook trout fisheries.

Brook trout are found in some of the most picturesque streams and lakes the Cody Region has to offer.



An example of a typical brook trout from a small stream in the Bighorn Mountains.



### Brook trout facts:

Native to eastern North America and widely introduced throughout the west during the late 19th and early 20th centuries.

They are a member of genus *Salvelinus* and are technically a char, not a trout.

The state record brook trout was caught in 1976 in the Green River Lakes. It was 24.5 inches long and weighed in at 9 lbs 11 oz.



Brook trout heaven—two Game and Fish employees monitoring a brook trout population in a willow lined stream in the Absaroka Mountains west of Cody.

## Update on restoring cutthroat to Porcupine Creek - Sam Hochhalter

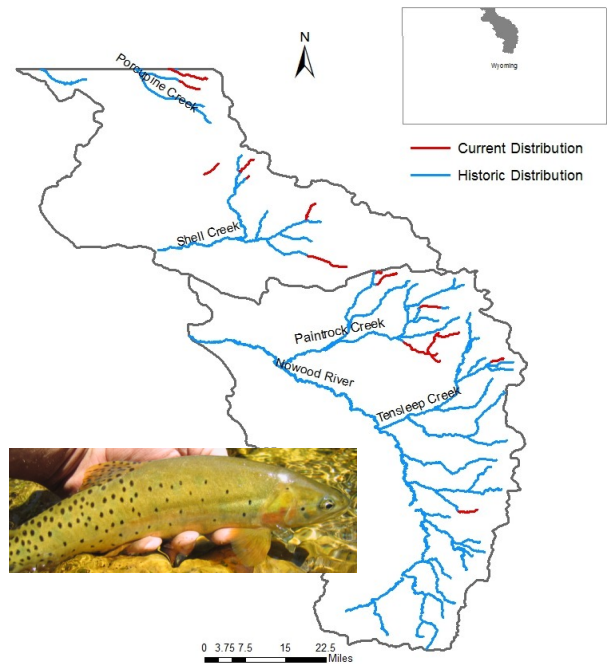
The Porcupine Creek Yellowstone cutthroat trout project has been under discussion for several years now.

For those of you not familiar with the project, it would involve chemical removal of brook trout from the ~20 miles of stream located above Porcupine Falls. Once brook trout are removed, cutthroat trout would be stocked until a self-sustaining population was established.

In 2013, we spent a lot of time talking with anglers and other members of the public about the project and we received a lot of feedback. While we heard both positive and negative comments regarding the project the level of opposition was such that we have decided that it is best to put the project on hold.

As fisheries biologists, it is our responsibility to manage fish and fisheries for present and future generations. So while the Porcupine Creek project might be undesirable at the present time, we are obligated to find suitable alternatives to ensure they are around for future generations. So if not Porcupine Creek then where? And that's the very question we will be bringing to the public in the coming years.

Having a list of candidate streams where Yellowstone cutthroat trout restoration is acceptable will be a necessary step in ensuring their persistence in the Bighorn Basin—especially when we continue to lose remnant native populations to hybridization with rainbows and competition with brook trout (e.g., Crandall Creek and Bear Creek).



The historic (blue) and current (red) distribution of Yellowstone cutthroat trout on the west slope of the Bighorn Mountains.



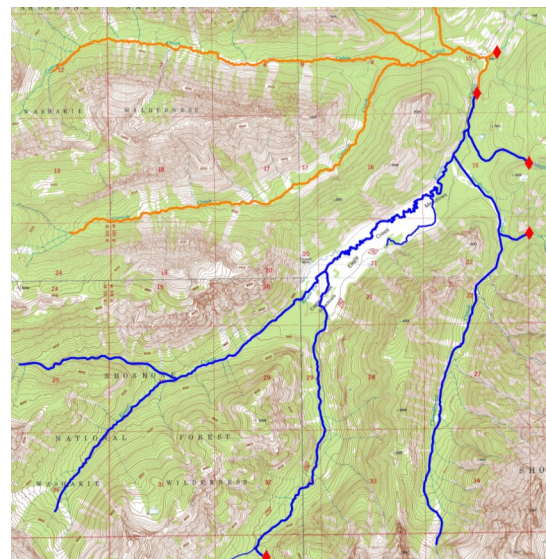
## Options for restoring Yellowstone cutthroat trout populations - Jason Burckhardt

*“To ensure native Yellowstone cutthroat trout are here for future generations we will have to find areas we can remove existing non-native trout populations.”*

Yellowstone cutthroat trout, the only species of trout native to this part of Wyoming, have disappeared from much of their historic habitat. In last year's newsletter we told you about how one of our last “conservation populations” of Yellowstone cutthroats in the North Fork Shoshone River drainage (Grinnell Creek) was lost by invading rainbow trout and brook trout. Such is the case across the range of Yellowstone cutthroats. To ensure the long-term persistence of these native fish we need to find locations where we can protect these native fish from the invasion of non-natives. Nearly all habitat in the Cody Region that has habitat capable of supporting trout populations has a trout population. This means that we have to look at removing existing non-native trout populations to establish or restore native cutthroat populations. One location that is

being considered for restoration is the Eagle Creek headwaters. This stream network is currently occupied by a stunted brook trout population. It has enough interconnected habitat

that could support a substantial population of Yellowstone cutthroats and has a large waterfall barrier that could prevent the invasion of non-natives downstream.



The Eagle Creek headwaters represents a location we could remove the existing brook trout population and establish a robust Yellowstone cutthroat population.

## Sunshine Reservoirs - Jason Burckhardt

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*“Upper and Lower Sunshine Reservoirs are the only two large reservoirs in the Cody Region that are stocked with trout and provide anglers an opportunity to harvest a limit of six fish.”*

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Upper and Lower Sunshine Reservoirs, just southwest of Meeteetse, in the Greybull River drainage are the only two large reservoirs in the Cody Region that are stocked with trout and offer anglers the opportunity to harvest a limit of six fish. These two reservoirs are very popular with the angling public particularly during the ice-covered season. At full pool Upper and Lower Sunshine reservoirs are approximately 1,200 and 900 surface acres respectively. These off-channel reservoirs receive water from the Wood and Greybull rivers, and the availability of this water has limited these fisheries historically. In the early 2000s Upper Sunshine was drained completely and Lower Sunshine was drained to it's "dead pool." No fish were stocked in either reservoir in 2001 and 2002. Stocking resumed in 2003, but the reservoirs were not close to capacity until the late 2000s. Since 2007 we have had relatively good water levels in these reservoirs. However, due to low snowpack in the winter of 2011-2012 both reservoirs were drawn down to between 1/4 and 1/3 of their full-pool areas in 2013.

Because the Greybull River drainage holds one of our most important populations of native Yellowstone cutthroat trout, we stock of these reservoirs with Yellowstone cutthroats to prevent the fish we stock from affecting the population in the river (should they escape). Splake (a brook trout/lake trout hybrid that has limited reproductive potential) are also stocked in Lower Sunshine to provide additional angling opportunities and to capitalize on the abundant sucker population we have in Lower Sunshine Reservoir.

We currently annually stock 30,000 Yellowstone cutthroat and 10,000 splake in Lower Sunshine and 80,000 Yellow-

stone cutthroat in Upper Sunshine each year. Those numbers are reduced in years with low water levels. Lake trout were stocked into Lower Sunshine once, in 1992, and large lake trout have been harvested from this water in the past. While both reservoirs were struggling with low water conditions in 2013, we sampled both reservoirs in 2013 to determine the status of the fisheries.

### Lower Sunshine Reservoir

The most notable occurrence from our netting was that suckers were by far the most common species in Lower Sunshine Reservoir. Suckers represented 83% of all fish caught in our gill nets. The abundance of these suckers likely affects the survival and growth of trout stocked in this reservoir. Catch rates in our gill nets were similar to the netting we conducted in 2009. At that time Yellowstone cutthroat trout were the most abundant gamefish, followed by splake. Few Yellowstone cutthroat were caught in our nets in 2013. Those that were captured represented two

year classes from stockings that occurred in 2012 and 2013. The most prevalent gamefish captured were splake that ranged from 14.7 inches to 22.4 inches and weighed 0.92 to 3.76 pounds.

### Upper Sunshine Reservoir

The Upper Sunshine Reservoir fishery is fairing better than Lower Sunshine Reservoir. However, our gill net catch rate was down by more than 50%. Suckers were also the most abundant fish captured in Upper Sunshine Reservoir, however the trout catch rate is three times that of Lower Sunshine Reservoir. Our netting indicated that the 4 to 5 inch trout stocked in the spring were averaging 10 inches long by July and those stocked in 2012 and 2011 were averaging 16 inches and 17 inches respectively. The largest cutthroat caught was 18.5 inches long and weighed just over two pounds.

It is likely that the drawdown of both reservoirs has led to the reduction in the productivity of each fishery.



When water conditions are favorable, Sunshine Reservoirs can produce Yellowstone cutthroat of sizable proportions.

## Watercraft inspections at borders - Greg Mayton, AIS Regional Supervisor

*If you transport  
a boat into  
Wyoming from  
March 1 through  
November 30,  
you are required  
to get your boat  
inspected for  
AIS before you  
launch in  
Wyoming.*

Spring is a great time to clean up the yard and get ready for the busy summer season. It is also a great time to renew your boat registration and buy your 2014 Aquatic Invasive Species (AIS) decal. Just a reminder, a three-year AIS decal for Wyoming registered watercraft is now available. Decals can be purchased at any Game and Fish office, online, and at most license selling vendors across the state.

In 2013, the Department's AIS Program inspected over 41,000 watercraft throughout the state. Of those, 1515 were high risk inspections meaning the watercraft was last used on a water infested with zebra/quagga mussels or had water on board that needed to be drained. A total of 578 watercraft required decontamination to remove water or suspect AIS. During the season, 14 watercraft were found to have mussels on them. One of those boats was intercepted at the Frannie Port of Entry AIS check station. Dreissenid mussels were found and the boat was fully decontaminated. Inspections at individual waters were not as prevalent in 2013 due to the emphasis on inspecting watercraft entering the state. That makes it particularly important

for resident boaters to always remember to Drain Clean and Dry their watercraft prior to boating each and every time, even when an inspection station is not present at the water.

The mandatory inspection requirement is in effect from **March 1 through November 30** each year. At all other times, an inspection is required if a watercraft has been on an infested water. This includes out-of-state boaters entering Wyoming and any Wyoming boaters who have left the state and are returning. Boaters can find information on inspection locations including Game and Fish offices and private locations at: <http://wgfd.wyo.gov/AIS>. Those wishing to become an AIS inspector must complete a free six-hour training course. Private certified inspectors may conduct watercraft inspections on their own watercraft and equipment, as well as provide these services to others.

The Wyoming Game and Fish Department will staff check stations at key entrances into the state as frequently as possible April 26 through September 15 and encourage all boaters to plan ahead to have their watercraft inspected at one of these locations. In the Cody Region, watercraft check stations will be

operated at Buffalo Bill Reservoir, Big Horn Lake and Big Horn River Wedding of the Waters on a rotating basis; the Frannie POE AIS check station will be operated seven days a week and the North Cody check station will be moved to Wapiti WY. If you require an inspection, please contact the Cody Regional Game and Fish Office at 307-527-7125 or Cody AIS Crew Lead, Greg Mayton, at 307-254-3554.

Plankton tow sampling for larval mussels (veligers) at Buffalo Bill Reservoir, Big Horn Lake, Bear-tooth Lake, Beck Lake, Deaver Reservoir, Harrington Reservoir, Island Lake, Meadowlark Lake, Upper Sunshine Reservoir, Wardell Reservoir, East and West Newton Lakes were conducted by Game and Fish in July and September 2013. All samples from these waters were negative indicating no presence of mussels. Currently, there are populations of other invasive species in Wyoming (Asian clam, New Zealand mudsnail, and curly pondweed) and we do not want these species to spread even farther. Do your part in stopping the spread of these species by always remembering to Drain Clean and Dry watercraft and all equipment. You can report an aquatic invasive species sighting at [ReportAIS@wyo.gov](mailto:ReportAIS@wyo.gov).



**Zebra mussel**



**Quagga mussel**



## Managing against illegal introductions - Jason Burckhardt

Illegal stocking is a serious violation that has the potential to severely damage fisheries that the Game and Fish and anglers have worked hard to establish.

There are several reasons introducing fish is illegal:

- Introduced fish can wreak havoc on an ecosystem, permanently altering them.
- Introduced fish may compete with native or already established species.
- Introduced fish may hybridize (interbreed) with established species.
- Introduced fish may carry or spread new diseases or parasites.
- Introduced fish may alter existing habitats

- Illegal introductions can raise management costs by requiring more or larger fish or even chemical rehabilitation to maintain or restore the fishery. The result is less fishing opportunity at higher cost for anglers.

In 2010, the Wyoming legislature acknowledged that serious problems can occur due to illegal introductions and made the offense a high misdemeanor with fines up to \$10,000 which could also result in the lifetime revocation of hunting and fishing privileges. Additionally, perpetrators could be charged with restoration costs.

There are numerous illegal introductions that have occurred over time in the Cody Region. One of the most recent and notable introductions was the illegal introduction of walleye into Buffalo Bill Reservoir.

Beginning this year walleye in Buffalo Bill Reservoir are classified as a nongame fish, meaning anglers will be able to kill and dispose of walleye they catch, but do not intend to eat. Also, **all walleye caught in Buffalo Bill Reservoir must be killed.** Reclassifying illegally introduced game fish as nongame and adopting "must kill" regulations are tools the Game and Fish are using to suppress illegally introduced fishes.

HELP STOP ILLEGAL FISH STOCKING

CALL: 1-877-WGFD-TIP

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*"Any fish introduction (stocking) that does not have the consent of the Wyoming Game and Fish Department is illegal."*

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## Waters managed for walleye in the Cody Region - Jason Burckhardt

Much of the press regarding walleye in the Cody Region has revolved around the potential detriment they pose to the wild trout fishery in Buffalo Bill Reservoir. There are however, three waters in the Cody Region where we manage for quality walleye angling opportunities. These waters are stocked annually with walleye and one even has a restrictive harvest regulation in an attempt to increase the quality of walleye available to anglers.

### Harrington Reservoir

Harrington Reservoir is a 184 surface acre off channel impoundment on BLM land near the town of Otto. This reservoir was constructed in the early 1990s to supplement late-season irrigation. It has been managed for walleye since 2003 with between 14,000 and 44,000 fingerling walleye stocked annually in Harrington Reservoir since that time. Sampling in 2013 found while walleye abundance was low, fish up to 17.6 inches were captured. But that's not to say there

aren't bigger fish in Harrington—we received several reports of an angler catching an 11 lb. walleye this past winter.

### Wardell Reservoir

Wardell Reservoir is a 107 surface acre impoundment adjacent to Harrington Reservoir. Like neighboring Harrington Reservoir, Wardell Reservoir has experienced decline in the sport fishery from the late 1990s through 2009. Wardell Reservoir has a long history of walleye stocking, and since 2004, approximately 1,100 walleye have been stocked annually. Sampling in 2013 found a slight increase in the abundance of walleye with fish up to 21.8 inches sampled.

### Deaver Reservoir

Deaver Reservoir is an 80 acre impoundment on US Bureau of Reclamation land near the town of Deaver. This water has been managed for walleye since the early 1990s and of the three waters we

actively manage for walleye, has been providing the best walleye fishery. We annually stock approximately 8,000 fingerling walleye in Deaver Reservoir each spring. Sampling in 2013 found the highest number of walleye greater than ten inches long since 2009. There were also several quality sized (greater than 15 inch long) wall-

eye sampled. The largest walleye sampled was 21.8 inches long and weighed 4.28 pounds. Deaver Reservoir has a history of producing some very large walleye including a 31.4 inch 11.4 pound fish sampled in 2007.



This 31.4 inch 11.4 pound walleye was captured in Deaver Reservoir in 2007.

*An estimated  
55,415 fish  
including  
important sport  
fish such as  
sauger and  
channel catfish  
were entrained  
in the Harmony  
Diversion canal  
and lost from  
the Nowood  
River during the  
2007 water  
year.*

## Improving fish passage on the Nowood River - Lewis Stahl, Fish Passage Coordinator

The Harmony Ditch irrigation diversion is located on the Nowood River about 4 miles east of Manderson. Although the canal looks relatively small, a WGFD entrainment study completed during the 2007 irrigation season estimated that 55,415 fish were entrained into the canal and lost from the river system. This included 16 fish species. Upstream passage over the current instream diversion was noted to be seasonally difficult, and even impossible for many fish species. Like many Wyoming diversions, this instream structure requires annual maintenance and late season irrigation often requires the addition of materials to dam the water and provide irrigation water rights. Instream disturbances and added materials result in additional sediment moving downstream in the Nowood and

Bighorn Rivers. This sediment negatively affects water quality, fish habitat quality and quantity, smothers eggs, and reduces invertebrate populations (fish food). A two phase improvement project at the Harmony Ditch has been developed to remove these undesirable effects. Phase 1 includes a new water control headgate system with two cone shaped screens that will prevent fish from getting into the irrigation canal, while still allowing water to flow through the screens and into the irrigation canal as usual. Phase 1 is scheduled for completion before irrigation season starts in 2014. Phase 2 is scheduled for fall 2014 and includes a new dam that will no longer require annual instream maintenance or addition of material in the fall. A fish ladder will be added to this new diversion structure to ensure

upstream passage of this impressive and complicated community of fish species. Of course, none of this would be possible without the interest and cooperation of the landowners and our funding partners, including the Wyoming Wildlife Natural Resource Trust and the U.S. Fish and Wildlife Service Fish Passage Program.



## Conserving Wildlife — Serving People

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### An eye toward the future

A day in the boat with grandpa. A million wonderful things.  
A lifetime of lessons. Two fishing poles and tradition.

It All Leads to **One** Moment.

WYOMING GAME AND FISH DEPARTMENT

### Bits and Pieces

The Cody Kids Fishing Day will be held June 7, 2014 At Beck Lake.

The Wyoming Free Fishing Day (no license required) is also June 7.

If you are interested in helping with the Shoshone River Cleanup in March 2015, let us know or contact a local Trout Unlimited member. We can always use the help.

### Newsletter Contributors

Contributors to this years newsletter include the Cody Fisheries Management Crew, Aquatic Invasive Species Regional Supervisor Greg Mayton and Regional Information and Education Specialist Tara Teaschner. Thanks to all.

## Fisheries Management in the Cody Region

The Cody fisheries team includes regional fisheries supervisor Craig Amadio, fisheries biologists Jason Amadio, fisheries biologists Jason Burckhardt and Sam Hochhalter.

We manage your fisheries resources for you and we encourage you to call or stop by if you have questions or concerns.

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Check out our website at [wgfd.wyo.gov](http://wgfd.wyo.gov) and our Cody regional web page under the "News" tab and go to "Game and Fish Regional News".

This and past newsletters for the Big Horn Basin and across the state are available at: <http://wgfd.wyo.gov/web2011/fishing-1000439.aspx>



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